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SUBJECT: ESKOM AND THE WORLD BANK LOAN FOR MEDUPI

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¶1. (SBU) SUMMARY: Two years after power utility Eskom's electricity crisis, the state-owned company continues to grapple with financing expanded supply and diversifying its energy mix. The recently released Integrated Resource Plan is a brief, three-year planning document, not revelatory in terms of expanding private engagement and diversifying the mix to include renewable and nuclear energy. A more robust Integrated Resource Plan is promised by mid-2010. Post is engaging closely with both the SAG and local World Bank representatives with respect to the Bank's proposed $3.75 billion loan to Eskom to complete the Medupi mega coal plant, to try to ensure that the loan addresses appropriately all environmental and other issues of concern to the USG. End Summary.

Spotlight on Eskom

¶2. (SBU) South Africa's state-owned power utility Eskom is grappling with expanding and financing power capacity, augmenting renewable energy and efficiency in its mix, maintaining leadership, and retaining and developing skills as it struggles to "keep on the country's lights" and ensure improved future service as economic growth resumes. Chronic power shortages in 2008 caused a series of country-wide blackouts and load-shedding with a significant negative impact on the country's economy and investment environment, with big production sacrifices in the electricity-hungry sectors such as mining and minerals smelting. This led to a management "shake-up" within Eskom that has resulted in a critical review of planning, maintenance, coal supply, expansion funding mechanisms, electricity pricing, power purchasing agreements, and renewable energy feed-in tariffs (REFIT) over the last two years. Under a new Acting CEO and Board Chair, Mpho Makwana, the utility has contributed mightily to an integrated resource plan (IRP) for future power supply and demand management, secured a number of loans to finance in part a R385 billion ($52 billion) generation expansion plan, and applied for a 35 percent rate increase each year from 2010 through 2012. Eskom's most current request is a revised "multi-year price determination" (MYPD), scaling back its original (October 2009) application for three years of 45 percent year-on-year rate increases. South Africa's national energy regulator (NERSA) is currently holding a series of public hearings as part of its review process prior to ruling on the adjusted - and still controversial - tariff increase application.

The Integrated Resource Plan

¶3. (SBU) SAG Minister of Energy Dipuo Peters published a long-awaited, initial two-page Integrated Resource Plan (IRP1) on December 31, 2009, in which the SAG underscores the need for new electricity generation capacity and provides a brief list of short-term projects required, emphasizing energy efficiency, demand side management, and renewable energy. The South Africa Department of Energy (SADOE) refers to a process of review "to allow for consultation with stakeholders" in the document and characterized that a "process of developing an IRP2 will commence in January 2010". It is expected that IRP 2 will be a more comprehensive and Q2010". It is expected that IRP 2 will be a more comprehensive and longer-term plan for electricity generation than IRP1. IRP1, which was approved by President Zuma's Cabinet, appears to be underpinned by a more detailed IRP compiled by Eskom in October 2009, in which the utility's planning team provided details of the "build program", demand side initiatives, associated forecast assumptions, and some limitations and concerns.

¶4. (U) Eskom's document, a copy of which was given to us in confidence by a member of the World Bank team (protect), presents a "build program" comprising the Medupi coal-fired power station, the Kusile coal-fired station, the Ingula pumped-storage station, and the finalization of the return-to-service (RTS) program of the previously moth-balled coal-fired stations. All of these generators are planned to be commissioned between 2012 and 2013. In the longer term, Renewable Energy Feed-in Tariff programs (REFIT), Medium Term Power Purchase programs (MTPPP), and the open-cycle gas turbine (OCGT) independent power producer deals (IPP) are expected to augment capacity in the medium term. On the demand reduction side, Eskom's IRP includes "known management programs" for commercial, industrial, and residential sectors that it expects to be successful. Based on discussions with the SADOE to diversify its energy mix, the utility included demand side management projects, such as the installation of one million solar water heaters, a solar concentration facility, a nuclear fleet strategy (to provide low emission base-load alternatives to coal-fired generation from 2020), hydro capacity from the region, and a gas-fired option at Moamba, Mozambique.

¶5. (SBU) In its IRP document, Eskom assumed "electricity demand growth of 3.5 percent over the next five years alongside a recovery in global and national economic performance", tapering off to "a longer term average of 3.2 percent over the 20-year planning horizon". Eskom generated a number of "risk-adjusted" scenarios to provide for emission constraints (based on the SAG's Long Term Mitigation Strategy 2025 targets) and increased private participation. The "least-cost plan" with a significant emphasis on cheap coal-fired generation, however, does not include related "externalities", in particular, greenhouse gas emissions. Importantly, the utility's least-cost plans do "not fully address concerns regarding long-term water usage for power generation", noting that "the long-term impact on overall water balances in the country is still to be addressed".

Expansion Plan Funding and
The Tariff Debate

¶7. (SBU) Participants in NERSA's ongoing series of public hearings are scrutinizing the accounting for the proposed tariff increase and debating alternative funding of Eskom's R385 billion ($52 billion) capital expansion plan. The regulator has said that it will announce its decision on the MYPD2 on February 24. Eskom has announced that it is exploring a number of financing options, over and above a SAG provision of R60 billion ($8.1 billion) as equity and R176 billion ($23.8 billion) in prospective loan guarantees, related to the proposed World Bank loan of up to $3.75 billion; the African Development Bank loan of 1.86 billion Euro dollars ($2.7 billion); a private sale of up to 49 percent of the equity in the planned Kusile mega coal plant; and a number of small, equipment specific loans totaling about R19 billion ($2.6 billion) from export credit agencies (for key power station components such as boilers and turbines).

Cornerstones of South Africa's Energy Supply

¶8. (SBU) Eskom's two new coal-fired power stations, Medupi and Kusile, will be among the biggest power stations in the world and are planned to generate a combined 8,700 MW, by far the biggest sources of South Africa's electricity supply by 2014. The Medupi Power Station is under construction near Lephalale in Limpopo Province and is (ambitiously) planned to begin commercial operation in 2012. Coal for the power station will be supplied from Exxaro's Grootegeluk mine. The Medupi project includes Flue Gas Desulphurization (FGD) technology and the construction of a "supercritical" plant that enables a higher efficiency of natural resource use (coal and water) and improved environmental performance. It will be the first power station in South Africa to deploy FGD aimed at abating emissions (Note: FGD is used to remove oxides of sulphur (SOX), e.g. sulphur dioxide (SO2), from the exhaust flue gases in power plants that burn coal or oil. End Note.) According to Eskom, Medupi will be the biggest dry-cooled QNote.) According to Eskom, Medupi will be the biggest dry-cooled power station in the world. Kusile is being constructed close to the existing Kendal Power Station in the Delmas Municipal area of the Mpumalanga Province and is planned to start commercial operation in 2013. Kusile's coal will be supplied by Anglo Coal (New Largo and Zondagfontein collieries). (Note: The plants are more than 50 km apart. End Note.)

World Bank Loan for Medupi Unpacked

¶9. (SBU) A loan for up to $3.75 billion under consideration by the World Bank has the stated objectives of "enabling Eskom to enhance energy supply security in an efficient and sustainable manner and supporting both economic growth objectives and South Africa's long-term carbon mitigation strategy." The Eskom Investment Support Project (EISP) would have three components: 1) the Medupi coal-fired power station; 2) investments in renewable energy, the 100 MW SERE wind farm located in Western Cape and the 100 MW Upington Concentrated Solar Power project; and 3) Low-carbon energy efficiency (through a technical assistance program for improving supply-side efficiencies and the Majuba road-to-rail coal transportation project). In an "acceptability assessment," the World Bank has found acceptable institutional capacity (in Eskom decision making authorities and stakeholders) and environmental assessment and land valuation and compensation processes and procedures.

Concerns Raised by USG

¶10. (SBU) In the context of the AFDB loan for Medupi, the USG had raised concerns about the adequacy of the environmental impact assessment (EIA), nontransparent procurements that had already taken place, and the adequacy of the efforts to mitigate the impact of significant CO2 and SO2 emissions, and emphasized the need for the EIA to assess the planned construction of a water transfer scheme, required for half of the power plant's water needs, and the required expansion of the Grootegeluk coal mine to supply the power plant. At that time, the USG also pointed out that without FGD technology Medupi would likely exceed World Bank standards for SOX emissions. In its statement, the USG also urged Eskom and the banks to "work together" to ensure that future procurement complies with the banks' rules and that Medupi's CO2 emissions are offset by emission reduction initiatives in other parts of South Africa's power sector.

¶11. (SBU) In November and again in January, econoffs raised USG concerns with local World Bank Director Ruth Kagia and her team. Officers mentioned press reports that Medupi procurements did not appear transparent and conveyed US Treasury concerns that Black Economic Empowerment equity requirements constitute potentially challenging local content strictures. (Note: The turbine/boiler supplier Hitachi Power is reportedly 20-percent owned by the ANC investment vehicle Chancellor House.) Kagia appeared appropriately focused on the need for the SAG and the Bank to address these concerns in preparing the loan documents and in discussions with the USG and other donor nations. Kagia admitted that existing South African procurement and local content requirements pose challenges,

but said the World Bank was working through the issues to come up with solutions. In Kagia cited a number of key facts: 1) The SAG National Treasury is doing its own due diligence for the loan guarantees, which would be properly accounted for as contingent liabilities; 2) The SAG Long Term Mitigation Strategy was robust with broad SAG buy-in; 3) The World Bank loan would lock in a variety of clean energy provisions, including using FGD; implementing a Majubi light rail coal transport project, which would eliminate 600 trucks and 200,000 tons a year of carbon emissions; improving energy efficiency; and implementing the related Clean Technology Fund, with incentives and requirements to put in place concentrated solar, solar water heaters, and wind projects. Kagia described Eskom's current top management as strong, despite the loss of the previous Chairman and CEO in a leadership tussle.

Comment

¶12. (SBU) It has now been almost two years since South Africa's power crisis "wake-up call"; the global recession gave a welcome reprieve in demand. The Integrated Resource Plan approved by the Cabinet provides scant details and begs many questions, including on private sector involvement in providing additional electricity capacity. Presumably the more comprehensive second phased IRP Qcapacity. Presumably the more comprehensive second phased IRP expected by mid-2010 will provide more detailed commitments. Mission will continue to work with the World Bank and SAG to see how well they are addressing USG concerns. While South Africa will remain highly dependent on coal in the short and medium term, the World Bank proposal and the SAG IRP1 appear to provide key linkages and commitments to carbon emissions offsets and diversifying South Africa's energy mix over time. Tariffs, water supply, and financing challenges will remain hurdles. The SAG remains committed to expanding nuclear power and Westinghouse remains well positioned when the process and timing are clarified, expected also in early ¶2010.

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